

## REMARKS

Applicant respectfully requests reconsideration of this application as amended.

Claims 1-2, 12-13, 23-24 and 34-35 have been amended. Claims 6-11, 15-22 and 26-33 have been previously canceled. No new claims have been added. Therefore, claims 1-5, 12-14, 23-25 and 34-36 are now presented for examination.

### **35 U.S.C. § 103 Rejection**

Claims 1, 12, 23 and 34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cowan et al., StackGuard (“Cowan”) in view of Koopman.

Claim 1 recites:

A method for preventing buffer overrun security vulnerabilities comprising:  
placing a return address on a stack;  
calculating a random number;  
saving the random number in a location;  
placing a plurality of empty spaces equal to the random number in a known place on the stack;  
executing a called function;  
removing one or more of the plurality of empty spaces from the known place on the stack where they were previously placed to find the return address; and  
setting an end of stack pointer to an end of stack frame.  
(emphasis provided).

Applicant respectfully submits that neither Cowan nor Koopman teach or reasonably suggest “saving the random number in a secure location.” (emphasis provided). For example, as referenced by the Examiner, “Cowen et al and Koopman . . . fail to disclose saving said random number in a secure location.” (Office Action, mailed July 22, 2005, page 4, first paragraph). Instead, the Examiner relies on Kettlewell as teaching “saving the random number in a secure location” as recited by claim 1. (emphasis provided).

Kettlewell discloses protecting against some buffer-overrun attacks. (see Title). Kettlewell further discloses that “[o]ne way to [protect against buffer-overrun attacks] is to make the stack appear at a different address every time the program runs . . . [by] *allocate[ing] a random amount of space on the stack before it does anything.*” (page 3, section 4; emphasis provided). In the pseudo-code on page 4 the function “real\_main()” includes a “char buffer[1024]” that is called in the “gets(buffer)” function which has the comment “insecure.” (see page 4). The “insecure” comment indicates that the method in Kettlewell does not teach or reasonably suggest “saving the random number in a secure location” as recited by claim 1. (emphasis provided). Therefore, Applicant submits that Kettlewell does not disclose or suggest such a feature.

Applicant respectfully submits that Cowan, Koopman nor Kettlewell, individually or combined, teach or reasonably suggest “saving the random number in a secure location” as recited by claim 1. (emphasis provided). Accordingly, Applicant respectfully requests that withdrawal of the rejection of claim 1 and its dependent claims.

Claims 12, 23 and 34 contain limitations similar to those of claims 1. Accordingly, Applicant respectfully requests the withdrawal of the rejection of claims 12, 23 and 34 and their dependent claims.

Claims 2-4, 13-14, 24-25 and 35-36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cowan and Koopman and in further view of Kettlewell, (web page).

With regard to claims 2-4, 13-14, 24-25 and 35-36, they depend from independent claims 1, 12, 23 and 34, respectively and thus include the limitations of the claims 1, 12,

23 and 34. Accordingly, Applicant respectfully requests the withdrawal of rejection of claims 2-4, 13-14, 24-25 and 35-36.

### **Conclusion**

In light of the foregoing, reconsideration and allowance of the claims is hereby earnestly requested.

**Invitation for a Telephone Interview**

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

**Request for an Extension of Time**

Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17(a) for such an extension.

**Charge our Deposit Account**

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: September 29, 2005



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